



Air Quality
PERMIT TO CONSTRUCT
State of Idaho
Department of Environmental Quality

PERMIT No.: P-2007.0038

FACILITY ID No.: 047-00021

AQCR: 63

CLASS: A

SIC: 4911

ZONE: 11

UTM COORDINATE (km): 685.60, 4731.68

1. PERMITTEE

EnviroDyne Corporation

2. PROJECT

Electrical power generation facility

3. MAILING ADDRESS

10400 Overland Road #226

CITY

Boise

STATE

ID

ZIP

83709

4. FACILITY CONTACT

Brent Hessing

TITLE

President

TELEPHONE

(208) 322-0777

5. RESPONSIBLE OFFICIAL

Brent Hessing

TITLE

President

TELEPHONE

(208) 322-0777

6. EXACT PLANT LOCATION

3349 South 1800 East, Wendell (outside city limits), Idaho

COUNTY

Gooding

7. GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS

Electrical power generation-internal combustion engines

8. PERMIT AUTHORITY

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200 through 228, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.

TRACY DROUIN, PERMIT WRITER
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE MODIFIED/REVISED:

DATE ISSUED:

Public Comment

MIKE SIMON, STATIONARY SOURCE PROGRAM
MANAGER
DEPARTMENT OF ENVIRONMENTAL QUALITY

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Acronyms, Units, and Chemical Nomenclature

AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
bhp	brake horsepower
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
gal/hr	gallons per hour
HAPs	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
NO _x	nitrogen oxides
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
scf/hr	standard cubic feet per hour
SIC	Standard Industrial Classification
SM	synthetic minor
T/yr	tons per year
UTM	Universal Transverse Mercator

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1. PERMIT TO CONSTRUCT SCOPE

Purpose

- 1.1 This is an initial Permit to Construct (PTC) for EnviroDyne Corporation. The PTC is for a new electrical power generating facility located in an agricultural area near Wendell, Idaho.

Regulated Sources

- 1.2 Table 1.1 lists all sources of regulated emissions in this PTC.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Section	Source Description	Emissions Control(s)
2	<u>Five Internal Combustion Engines</u> (2) 9-Cylinder Engines and (3) 12-Cylinder Engines Manufacturer: Fairbanks Morse	Each engine exhaust will be fitted with a CO Catalyst to control CO emissions.
N/A	<u>Diesel Storage Tank*</u> 12,000 gallons	None

*The diesel storage tank is not a significant source of emissions, but was included for the emissions inventory and modeling.

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2. FIVE INTERNAL COMBUSTION ENGINES

2.1 Process Description

EnviroDyne will produce electrical energy from combusting natural gas in the five Internal Combustion Engines (Enviro 1, Enviro 2, Enviro 3, Enviro 4 and Enviro 5) at its Wendell, Idaho facility. Distillate No. 1 or 2 fuel oil will be used at 1 percent to provide fuel ignition for these engines.

2.2 Emissions Control Description

Table 2.1 INTERNAL COMBUSTION ENGINES

Emissions Unit(s) / Process(es)	Emissions Control Device	Emissions Point
<u>Internal Combustion Engines</u> ID No.: Enviro 1 Manufacturer: Fairbanks Morse Model: 9-Cylinder Rated Power: 3,218 bhp ID No.: Enviro 2 Manufacturer: Fairbanks Morse Model: 9-Cylinder Rated Power: 3,218 bhp ID No.: Enviro 3 Manufacturer: Fairbanks Morse Model: 12-Cylinder Rated Power: 4,296 bhp ID No.: Enviro 4 Manufacturer: Fairbanks Morse Model: 12-Cylinder Rated Power: 4,296 bhp ID No.: Enviro 5 Manufacturer: Fairbanks Morse Model: 12-Cylinder Rated Power: 4,296 bhp	CO Reduction Oxidation Catalysts for each engine (5)	Engine exhaust stack for each engine(5)

Emissions Limits

2.3 CO Emission Limit

Emissions of carbon monoxide (CO) from the five combined internal combustion engines exhaust stacks shall not exceed 56 pounds per hour and 249 tons per any consecutive 12-month period.

2.4 NO_x Emission Limit

Emissions of Nitrogen Oxides (NO_x) from the five combined internal combustion engines exhaust stacks shall not exceed 205 tons per any consecutive 12-month period.

2.5 Opacity Limit

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Emissions from the internal combustion engine stacks, or any other stack, vent, or functionally equivalent opening associated with the internal combustion engines, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

2.6 Allowable Fuel Types

The five internal combustion engines shall operate on 99 percent pipeline quality natural gas. Distillate fuel oil (ASTM Grade 1 fuel oil or ASTM Grade 2 fuel oil) may be combusted for engine pilot ignition at 1 percent of the total fuel.

2.7 Fuel Oil Sulfur Content

The sulfur content of the distillate oil supplied to the internal combustion engines shall not exceed 0.3% by weight if ASTM Grade 1 fuel oil or 0.5% by weight if ASTM Grade 2 fuel oil as required by IDAPA 58.01.01.728.

2.8 CO Reduction Oxidation Catalyst System

The permittee shall install a CO reduction oxidation catalyst system for each of the five internal combustion engines.

2.9 Air Pollution Control Equipment Temperature Monitoring Device

The permittee shall install, calibrate, maintain and operate a temperature monitoring device to obtain the inlet and outlet temperature of the air pollution control equipment.

2.10 Operations & Maintenance Manual

Within 60 days of permit issuance the permittee shall have developed an Operations and Maintenance (O&M) manual for the internal combustion engines and CO reduction oxidation catalyst systems which describes the procedures that will be followed to comply with General Provision 2 of this permit and the manufacturer specifications for the equipment. It is recommended that the permittee contact the DEQ Twin Falls Regional Office at (208) 736-2190 during development of the O&M manual to discuss topics and to determine if the O&M manual should be submitted for review. At a minimum the following items shall be included in the manual:

- A general discussion of the operation of the internal combustion engines and CO reduction oxidation catalyst systems;
- Manufacturer recommended temperature range of the CO reduction oxidation catalyst systems for maximum control efficiency relative to the fuel used in the internal combustion engines. The temperature range shall include minimum and maximum gas inlet temperature and minimum and maximum gas outlet temperature;
- Frequency and methods of thermocouple and temperature measurement system visual inspections and testing, as applicable for CO reduction oxidation catalyst systems;
- The expected life of each CO reduction oxidation catalyst system and replacement criteria;
- Corrective action when the CO reduction oxidation catalyst system(s) operates outside normal operating range(s); and
- Frequency and methods of maintenance and inspection for the internal combustion engines.

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The O&M manual shall remain on site at all times and shall be made available to DEQ representatives upon request.

2.11 Equipment Operation

Each engine and respective CO reduction oxidation catalyst system shall be operated at all times in accordance with manufacturer recommendations and the O&M Manual.

2.12 Engine Low-NO_x Operation

Each of the five internal combustion engines shall be operated in low-NO_x mode at all times while running.

2.13 Tier I Operating Permit Application Requirement

In accordance with IDAPA 58.01.01.313.01.b, the permittee shall submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source or commencing operation.

Monitoring and Recordkeeping Requirements

2.14 Performance Test

For each internal combustion engine, no later than 180 days after initial startup of the engines, the permittee shall conduct a performance test to measure NO_x and CO emissions from the engine stacks, and at least once every two years thereafter. The performance tests are to be conducted to demonstrate compliance with permit conditions 2.3 and 2.4. The tests shall be conducted in accordance with General Provision 6 of this permit and with the procedures outlined in 40 CFR 60, Appendix A, Methods 7 and 10, or a DEQ-approved alternative. For tests conducted on-site, the initial performance test, and any subsequent performance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 58.01.01.157. In addition, the following information shall be recorded during each performance test run and included in the performance test report:

- Manufacturer's name, model number, serial number and brake horsepower of the engine;
- The engines shall be operated at the worst case normal conditions during the performance test. A description of how this requirement was met shall be included in the performance test report;
- The fuel consumption shall be recorded in units of scf/hr (natural gas) and gal/hr (distillate fuel oil). The methods used to measure fuel consumption shall be described;
- The inlet and outlet temperature to the CO reduction catalyst oxidation systems;
- The pressure differential across the CO reduction catalyst oxidation systems
- The measured NO_x and CO emission rate shall be reported in units of pounds per hour. All calculations used to convert the test results into these units shall be provided in the test report.

For each compliance test, the proposed test date(s), test date rescheduling notice(s), compliance test report, and all other correspondence shall be sent to the following address:

Air Quality Permit Compliance
Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore Street

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Twin Falls, ID 83301
Phone: (208) 736-2190 Fax: (208) 736-2194

2.15 CO Reduction Oxidation Catalyst System Temperature Monitoring

The permittee shall monitor and record the inlet temperature and outlet temperature for each catalyst system continuously. Records of this information (i.e. strip charts) shall be maintained on site for the most recent five year period and made available to DEQ representatives upon request.

2.16 Fuel Usage

The permittee shall monitor the amount, type and percentage of fuel combusted in the five internal combustion engines to demonstrate compliance with permit condition 2.6. Records of this information shall be maintained on site for the most recent five year period and made available to DEQ representatives upon request.

2.17 Fuel Oil Sulfur Content Monitoring

The permittee shall maintain purchase records or equivalent from the supplier that show the sulfur content of the fuel oil delivered to the facility on an as-received basis. Records of this information shall remain on site for the most recent five-year period and shall be made available to DEQ representatives upon request.

Reporting Requirements

2.18 Excess Emissions

The permittee shall submit a report of any and all exceedances of any emission rate, visible emission, or operating requirement listed in the emissions limits and operating requirements sections of this permit to DEQ in accordance with IDAPA 58.01.01.130-136.

2.19 Reports and Certifications

All periodic reports and certifications required by this permit shall be submitted to DEQ within 60 days of the end of each specified reporting period unless specified otherwise in this permit. Excess emissions reports and notifications shall be submitted in accordance with Permit Condition 2.18. Reports, certifications and notifications shall be submitted to the following:

Air Quality Permit Compliance
Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore Street
Twin Falls, ID 83301
Phone: (208) 736-2190 Fax: (208) 736-2194

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3. PERMIT TO CONSTRUCT GENERAL PROVISIONS

General Compliance

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.
[Idaho Code §39-101, et seq.]
2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
[IDAPA 58.01.01.211, 5/1/94]
3. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.
[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

4. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:
 - a. Enter upon the permittee's premises where an emissions source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d. As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

5. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:
 - a. A notification of the date of initiation of construction, within five working days after occurrence;
 - b. A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

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- c. A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;
- d. A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and
- e. A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

- 6. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

- 7. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

Excess Emissions

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8. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

9. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

10. No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

11. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

12. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

13. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.